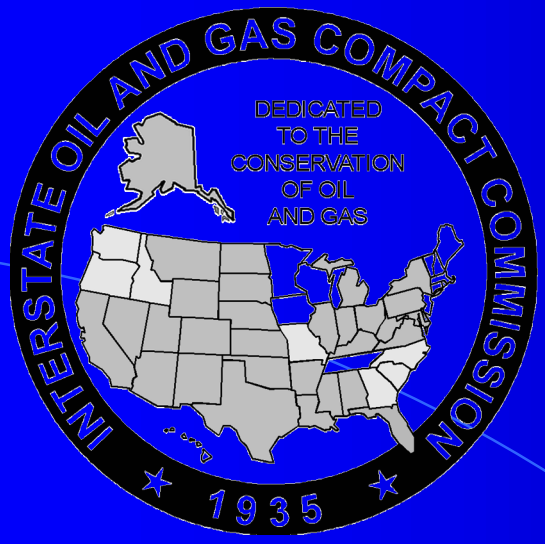


Interstate Oil and Gas Compact Commission

IOGCC GEOLOGICAL CO_2 SEQUESTRATION TASK FORCE FINAL REPORT SUBMITTED TO DOE JANUARY 2005

IOGCC Geological CO_2 Sequestration Task Force

- **Task Force created by IOGCC Resolution in December 2002.**
- **Funded by USDOE/NETL.**
- **Task Force comprised of representatives from IOGCC member states, State oil and gas agencies, the USDOE, the Association of State Geologists and all of the regional partnerships.**

IOGCC Geological CO_2 Sequestration Task Force Objectives

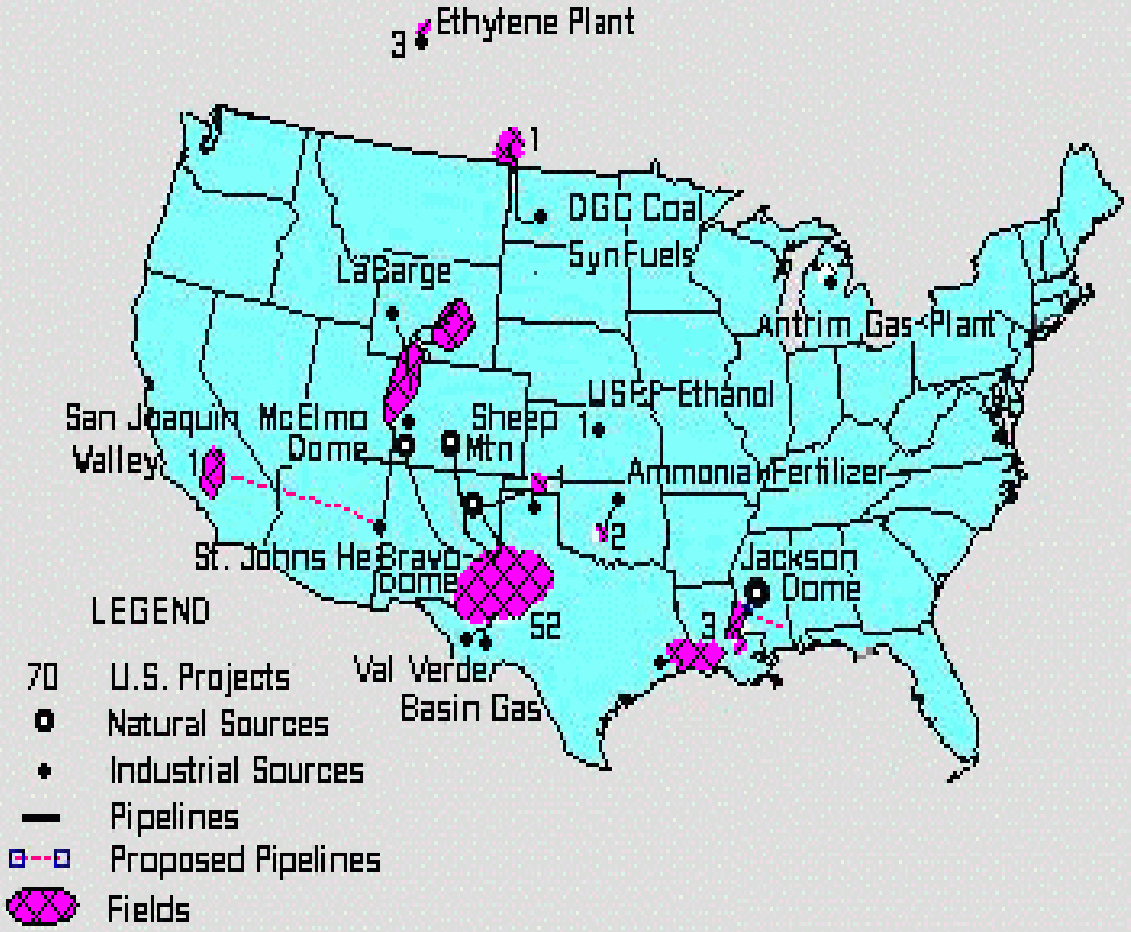
1. **Examination of the technical, policy & regulatory issues related to safe & effective storage of CO_2 in the subsurface:**
   - oil and natural gas fields, coal beds and saline aquifers, whether for enhanced hydrocarbon recovery or permanent storage; and

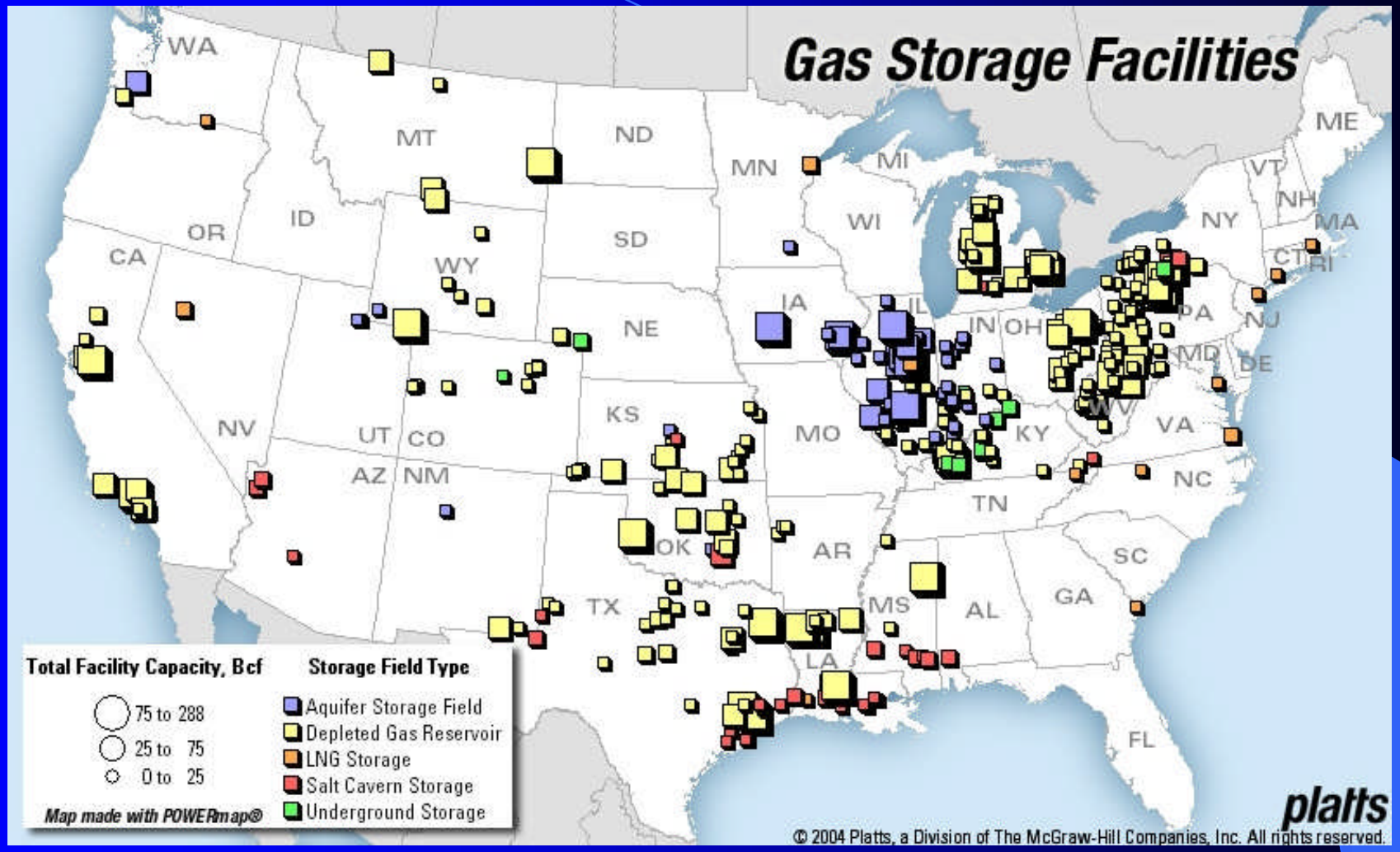
2. **Production of a Final Report containing:**
   - an assessment of the current regulatory framework likely applicable to geologic CO_2 sequestrations, and
   - recommended regulatory guidelines and guidance documents. The final report should lay the groundwork for a state-regulated, but nationally consistent, system for the geologic sequestration of CO_2.

EXISTING ANALOGS PROVIDED GUIDANCE

- NATURALLY OCCURING CO_2 CONTAINED IN GEOLOGIC RESERVOIRS
- CO_2 ENHANCED OIL RECOVERY (EOR) PROJECTS
- NATURAL GAS STORAGE PROJECTS
- ACID GAS INJECTION OPERATIONS

CO_2 PROJECTS & SOURCES




Gas Storage Facilities
WA
MT
ND
MN
MI
ME
VT
NH
MA
OR
ID
SD
WI
NY
CA
WY
CT
RI
IA
IL
PA
NJ
NE
IN
OH
MD
DE
NV
UT
CO
KS
MO
KY
WV
VA
AZ
NM
NC
TN
OK
AR
SC
TX
MS
AL
GA
LA
FL
Total Facility Capacity, Bcf
75 to 288
25 to 75
0 to 25
Storage Field Type
Aquifer Storage Field
Depleted Gas Reservoir
LNG Storage
Salt Cavern Storage
Underground Storage
Map made with POWERmap®
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Final Report
Regulatory Overview

- Capture Stage
- Transport Stage
- Injection Stage
- Storage Stage

Capture Stage

- CO_2 for CCGS is defined as a direct emission streams with a purity in excess of 95% or a processed emission streams with commercial value.
- CO_2 is not currently defined in existing federal air regulations as a pollutant. While pollutants such as NO_2, SO_2 and other contaminants should remain regulated for public health, CO_2 should not be classified as a pollutant and be viewed as a commodity.
- Existing state and federal regulations dealing with facility permitting, operating and emission standards can be easily modified to address CO_2 capture technologies.

Transport Stage

- Existing Federal and State transport regulations easily adaptable to address CO_2 transport.
- Large body of experience in CO_2 pipeline construction and operation, including well established materials standards and regulatory frameworks, will necessitate limited need for additional state regulations.
- Eminent domain (primarily a state issue), will require state statute review to determine extension of eminent domain powers to CO_2 pipelines.
- Federal agencies will ultimately need to address "open access" issue for pipelines.

Injection Stage

- Existing regulations for CO_2 EOR and underground natural gas storage provide the necessary analogs for establishment of regulatory frameworks for CO_2 injection operations.

- Adapt and modify established permitting procedures and standards for site characterization for purposes of CCGS including establishment of monitoring measurement and verification protocols. Results of DOE sponsored partnerships research efforts will assist in the development of science based regulations.

Post Injection Storage

- Consider the potential need for legislation to clarify and address the unknown issues which may arise in the ownership of storage rights (reservoir pore space) and payment for use of those storage rights.
- Construct a regulatory framework for storage which will allow for withdrawal of CO_2 for commercial purposes.
- Establish procedures for long-term reservoir management and monitoring, including use of flexible regulatory frameworks to utilize innovative monitoring technologies and establishment of long-term verification protocols to confirm that injected CO_2 volumes remain in place.
- Establish protections for nonperformance of responsible parties. Long term nature of projects will require innovative solutions beyond current analogs such as government backed surety bonds and insurance funds, government trust funds, and specialized Public, Private or Semi-Private Partnerships or federally guaranteed industry funded abandonment programs.

MAJOR CONCLUSIONS

- At earliest possible time involve all stakeholders including general public in the development of regulatory frameworks.
- States have necessary regulatory analogs in place to facilitate development of a comprehensive CCGS regulatory frameworks.
- Experience gained by industry and states in the production, transport and injection of CO_2 over last 30 years will enable development of technically sound regulatory frameworks.
- CO_2 should be regulated as a commodity to allow the application of oil and gas conservation laws which will facilitate development of storage fields, the protection of the storage reservoirs to maximize storage capacity, and the protection of correlative rights of the interested owners.

MAJOR CONCLUSIONS

- CO_2 EOR injection and storage promise a potentially substantial additional benefit to our economy and national security by increasing the amount of oil the U.S. is able to produce domestically from existing fields.
- This increases the likelihood that CO_2 EOR will be the vehicle that will drive CCGS development – providing the means by which we build injection/storage experience, regulatory and otherwise, and physical infrastructure (pipelines/facilities).
- Thus, the EOR, natural gas storage and acid gas injection models will likely provide a technical, economic and regulatory pathway for long-term CO_2 storage.

Next Steps for Task Force

- Final Report has been released and is available to the public in printed form, by CD and on the IOGCC web page.
- IOGCC has passed new resolution to continue existence of Task Force under new name: **Carbon Capture and Geologic Storage Task Force.**
- Pending availability of funding Task Force will continue work in the development of specific regulatory guidelines dealing with CCGS for use by member states.
- IOGCC will continue to facilitate discussion between stakeholders and states regarding CCGS issues.